

Application: 15-09-001
(U 39 M)
Exhibit No.: (PG&E-46)
Date: October 31, 2016
Witness(es): Nielson D. Jones



FILED
10-31-16
04:59 PM

PACIFIC GAS AND ELECTRIC COMPANY

2017 GENERAL RATE CASE

**LATE FILED EXHIBIT ON CALCULATION OF IMPUTED REGULATORY
VALUES FOR THE POST TEST-YEARS**

EXHIBIT (PG&E-46)



**PACIFIC GAS AND ELECTRIC COMPANY
LATE FILED EXHIBIT ON CALCULATION OF IMPUTED
REGULATORY VALUES FOR THE POST TEST-YEARS**

PACIFIC GAS AND ELECTRIC COMPANY
LATE FILED EXHIBIT ON CALCULATION OF IMPUTED REGULATORY VALUES
FOR THE POST TEST-YEARS

TABLE OF CONTENTS

A. Introduction..... 1

B. Overview of PG&E’s Post Test-Year Imputation Methodology 1

Appendix A – Calculation of Imputed Regulatory Values for the Post
Test-Years.....A-1

PACIFIC GAS AND ELECTRIC COMPANY
LATE FILED EXHIBIT ON CALCULATION OF IMPUTED
REGULATORY VALUES FOR THE POST TEST-YEARS

A. Introduction

This late filed testimony is prepared pursuant to the instructions of Administrative Law Judge (ALJ) Stephen C. Roscow. Specifically, ALJ Roscow directed Pacific Gas and Electric Company (PG&E) to reconcile “the lump sums that were settled upon for 2018 and 2019 to PG&E’s budgets [imputed regulatory values] for those years.”¹ As ALJ Roscow’s directive implies, the parties to the PG&E 2017 General Rate Case (GRC) Settlement Agreement (Agreement) agreed upon specific revenue requirement increases for the 2018 and 2019 post test-years, and also agreed on a breakdown of those annual increases by the functional areas of Gas Distribution, Electric Distribution, and Electric Generation. These values were not derived through Results of Operations (RO) Modeling, but resulted from negotiation among the settling parties.² The Agreement does not include 2018 and 2019 values for PG&E beyond these high-level, functional area revenue requirements.

This testimony provides an overview of PG&E’s post test-year imputation methodology, used to calculate detailed 2018 and 2019 regulatory values that conform to the overall Agreement revenue requirements. PG&E’s methodology was reviewed by and reflects input from the Office of Ratepayer Advocates and The Utility Reform Network. PG&E presents the calculated imputed regulatory values for 2018 and 2019 in Appendix A. These imputed regulatory values are not part of the Agreement.

B. Overview of PG&E’s Post Test-Year Imputation Methodology

The August 3, 2016 Agreement identifies specific revenue requirement increases at the functional level for 2018 and 2019. Specifically, Appendix B of

¹ Transcript (Tr.) Vol. 12, 976:19 – 978:5. While ALJ Roscow initially referenced PG&E’s 2018 and 2019 budgets, he subsequently accepted PG&E’s clarification that PG&E would be providing 2018 and 2019 imputed regulatory values for this submission. See p. Tr. Vol. 12., 978:1-5.

² Tr. Workshop(WS.), 19: 20 – 25.

1 the Agreement prescribes the following revenue requirement increases for each
2 functional area:

TABLE 1
PG&E 2017 GRC SETTLEMENT AGREEMENT
POST TEST-YEAR REVENUE REQUIREMENT INCREASES
(MILLIONS OF NOMINAL DOLLARS)

Line No.		2018	2019
1	Gas Distribution	\$110	\$96
2	Electric Distribution	250	195
3	Electric Generation	84	70
4	GRC Total	\$444	\$361

3 To develop imputed regulatory values for 2018 and 2019³ that conform to
4 the Agreement parameters, PG&E used a 4-step process: (1) calculate the total
5 expense-related and capital-related revenue requirement increases;
6 (2) calculate the capital net additions supported by the Agreement at a functional
7 level; (3) calculate expense-related revenue requirement increases at a
8 functional level; and (4) breakdown function-specific settlement expense and
9 capital expenditure amounts at the 2017 GRC exhibit-level by Major Work
10 Category (MWC).

11 Step 1: PG&E used expense escalation parameters from the August 30,
12 2016 settlement workshop presentation⁴ to calculate the expense-related
13 portion of the revenue requirement of the post test-year increases at the total
14 GRC level for 2018 and 2019 in the RO Model. The results are \$86 million for
15 2018 and \$83 million for 2019 in expense-related revenue requirement
16 increases. After subtracting the expense-related portion of the revenue
17 requirement increases from the overall revenue requirement increase for 2018
18 and 2019, the remaining revenue requirement increases for capital-related
19 components are \$358 million for 2018 and \$278 million for 2019, as shown in
20 Table 2 below. The capital-related revenue requirement increases are driven by

³ The Agreement provides explicit amounts for 2017 in Appendix A. Therefore, no imputation is needed for 2017.

⁴ Exhibit (PG&E-39), p. 2, e.g., 2.4 percent Consumer Price Index (CPI) for labor escalation and Global Insight factors for material escalation for 2018 and 2019.

1 capital additions; depreciation; return on rate base; and property and
 2 income taxes.

TABLE 2
PG&E 2017 GRC SETTLEMENT AGREEMENT
POST TEST-YEAR REVENUE REQUIREMENT INCREASES
(MILLIONS OF NOMINAL DOLLARS)

Line No.		2018	2019
1	GRC Total	\$444	\$361
2	Expense-Related	(86)	(83)
3	Capital-Related	\$358	\$278

3 Step 2: PG&E calculated the capital net additions supported by the
 4 available capital revenue requirement increases—\$358 million for 2018 and
 5 \$278 million for 2019—using the RO Model. PG&E then reduced its forecast of
 6 net additions to match the total capital revenue requirement increases provided
 7 by the Agreement for each functional area for 2018 and 2019. The overall
 8 capital net additions that are supported by the available capital revenue
 9 requirement increases represent reductions of approximately 7 percent in 2018
 10 and an additional reduction of 2 percent in 2019, as compared to the calculated
 11 2017 Agreement net additions. The resulting function-specific net addition and
 12 capital-related revenue requirement increases are shown in Table 3 below.

TABLE 3
PG&E 2017 GRC SETTLEMENT AGREEMENT
FUNCTION-SPECIFIC CAPITAL NET ADDITION AND REVENUE REQUIREMENT INCREASES
(MILLIONS OF NOMINAL DOLLARS)

Line No.		2017 Net Addition	2018 Net Addition	2018 Revenue Requirement Increase	2019 Net Addition	2019 Revenue Requirement Increase
		(a)	(b)	(c)	(d)	(e)
1	Gas Distribution	\$964	\$900	\$151	\$881	\$113
2	Electric Distribution	1,558	1,435	182	1,400	139
3	Electric Generation	471	440	26	432	26
4	GRC Total	\$2,994	\$2,775	\$358	\$2,712	\$278
5	Year-To-Year Change		-7%		-2%	

1 Step 3: To calculate the function-specific expense revenue requirement
2 increases for 2018 and 2019, PG&E subtracted the function-specific
3 capital-related revenue requirement increases—shown in Table 3—from the
4 overall function-specific revenue requirement increases prescribed in the
5 Agreement—as shown in Table 1 of this testimony. The function-specific
6 expense revenue requirement increases (decreases) are shown in Table 4
7 below. Table 5 is a summary of the GRC 2018 and 2019 revenue requirement
8 increases at the functional-level, developed using the method described in
9 Steps 1 through 3.

TABLE 4
PG&E 2017 GRC SETTLEMENT AGREEMENT
POST TEST-YEAR FUNCTION-SPECIFIC EXPENSE REVENUE REQUIREMENT INCREASES
(DECREASES)
(MILLIONS OF NOMINAL DOLLARS)

Line No.		2018	2019
1	Gas Distribution	\$(41)	\$(17)
2	Electric Distribution	68	56
3	Electric Generation	58	44
4	GRC Total	\$86	\$83

TABLE 5
PG&E 2017 GRC SETTLEMENT AGREEMENT
SUMMARY OF POST TEST-YEAR FUNCTION-SPECIFIC REVENUE REQUIREMENT
INCREASES (DECREASES)
(MILLIONS OF NOMINAL DOLLARS)

Line No.		2018	2019
1	Gas Distribution	\$110	\$96
2	Expense	(41)	(17)
3	Capital-Related	151	113
4	Electric Distribution	\$250	\$195
5	Expense	68	56
6	Capital-Related	182	139
7	Electric Generation	\$84	\$70
8	Expense	58	44
9	Capital-Related	26	26
10	GRC Total	\$444	\$361
11	Expense	\$86	\$83
12	Capital-Related	\$358	\$278

PG&E then applied these function-specific expense revenue requirement changes to adjust expense spending (e.g., operations and maintenance labor and materials) for each functional area.

Step 4: PG&E further broke down the function-specific expense and capital expenditure amounts to the exhibit-level and by MWC, consistent with PG&E's 2017 GRC filing. For capital expenditures, PG&E used the 2017 capital net addition to capital expenditure ratios to calculate the corresponding capital expenditures at the MWC-level for 2018 and 2019.⁵ For expense, PG&E allocated the 2018 and 2019 function-specific post test-year expense adjustments to each MWC in proportion to the Federal Energy Regulatory Commission functional group total amount.⁶

⁵ Specifically, the formula to calculate PG&E's 2018 capital expenditures is: 2017 Capital Expenditures + (2017 Capital Expenditures Adopted in the Agreement/2017 Adopted Capital Net Addition) * Imputed 2018 Capital Net Addition Change. Imputation method for 2018 and 2019 function-specific capital net addition is described in Step 2 of this testimony.

⁶ Specifically, the formula to calculate PG&E's 2018 expense is: 2017 Agreement expense amount + labor escalation based on CPI + non-labor escalation based on Global Insight functional-specific factors + function-specific expense adjustments so that the overall function-specific expense-related revenue requirement increases are consistent with the amounts provided in Step 3 of this testimony.

1 As explained above, the Settlement Agreement prescribes only functional
2 area revenue requirement increases. It does not break these functional area
3 revenue requirement increases into expense-related and capital-related revenue
4 requirements, nor does the Agreement specify how to arrive at such values for
5 purposes of imputing regulatory values for 2018 and 2019 that conform to the
6 Agreement parameters. Likewise, the Settlement Agreement does not instruct
7 how to further allocate the imputed expense-related and capital-related revenue
8 at the: MWC-level, for the lines of business (LOB); and organizational-level, for
9 the corporate services departments. Rather, the 4-step methodology described
10 above—and applied by PG&E in calculating imputed regulatory values for 2018
11 and 2019—is wholly separate from the Settlement Agreement.

12 Appendix A to this testimony provides detailed 2018 and 2019 calculated
13 imputed regulatory values at the MWC-level for the LOBs; and at the
14 organization-level for the corporate services departments. Appendix A also
15 contains PG&E's 2018 and 2019 calculated imputed regulatory values for its
16 companywide expenses, such as benefits and insurance costs. For comparison
17 purposes, PG&E has also included the 2017 Agreement amounts in Appendix A.

PACIFIC GAS AND ELECTRIC COMPANY
APPENDIX A
CALCULATION OF IMPUTED REGULATORY VALUES FOR THE
POST TEST-YEARS

Schedule 1

Pacific Gas and Electric Company 2017 GRC Settlement and Imputed Regulatory Values Summary of Expense and Capital Expenditures (Thousands of Nominal Dollars)

2017-2019 Line of Business Expense

Line No.	LOB	2017					E	F=(D-C)/C	G=(E-D)/D
		A	B	C=A+B	D				
		PG&E Final Forecast	Settlement Reduction	Settlement	2018	2019		% Change 2017 to 2018	% Change 2018 to 2019
1	Gas Distribution	\$ 528,220	\$ (17,547)	\$ 510,673	\$ 479,023	\$ 464,546		-6.2%	-3.0%
2	Electric Distribution ¹	\$ 722,160	\$ (7,145)	\$ 715,016	\$ 756,928	\$ 791,112		5.9%	4.5%
3	Energy Supply ¹	\$ 743,878	\$ (4,670)	\$ 739,208	\$ 790,901	\$ 828,827		7.0%	4.8%
4	Customer Care	\$ 429,454	\$ (30,589)	\$ 398,865	\$ 401,893	\$ 408,199		0.8%	1.6%
5	Shared Services/IT	\$ 429,577	\$ (7,531)	\$ 422,046	\$ 433,152	\$ 443,956		2.6%	2.5%
6	Corp Services ²	\$ 308,813	\$ (3,310)	\$ 305,503	\$ 313,231	\$ 320,988		2.5%	2.5%
7	Corp Services IT	\$ 7,878	\$ -	\$ 7,878	\$ 7,991	\$ 8,137		1.4%	1.8%
8	Total	\$ 3,169,980	\$ (70,791)	\$ 3,099,188	\$ 3,183,119	\$ 3,265,766		2.7%	2.6%

NOTES

- 1 Includes balancing accounts
- 2 Total company, fully burdened in SAP dollars

2017-2019 Line of Business Capital Expenditures

Line No.	LOB	2017					E	F=(D-C)/C	G=(E-D)/D
		A	B	C=A+B	D				
		PG&E Final Forecast	Settlement Reduction	Settlement	2018	2019		% Change 2017 to 2018	% Change 2018 to 2019
1	Gas Distribution	\$ 1,011,036	\$ (10,000)	\$ 1,001,036	\$ 934,989	\$ 915,269		-6.6%	-2.1%
2	Electric Distribution ¹	\$ 1,795,890	\$ (101,662)	\$ 1,694,228	\$ 1,559,881	\$ 1,521,731		-7.9%	-2.4%
3	Energy Supply ¹	\$ 480,160	\$ -	\$ 480,160	\$ 449,648	\$ 441,236		-6.4%	-1.9%
4	Customer Care	\$ 198,089	\$ (1,325)	\$ 196,764	\$ 182,699	\$ 178,452		-7.1%	-2.3%
5	Shared Services/IT	\$ 499,359	\$ (5,361)	\$ 493,997	\$ 457,773	\$ 445,858		-7.3%	-2.6%
6	Human Resources	\$ 3,605	\$ -	\$ 3,605	\$ 3,409	\$ 3,344		-5.4%	-1.9%
7	Corporate Services	\$ 33,256	\$ -	\$ 33,256	\$ 30,984	\$ 30,210		-6.9%	-2.4%
8	Total	\$ 4,021,394	\$ (118,348)	\$ 3,903,046	\$ 3,619,363	\$ 3,536,101		-7.3%	-2.3%

NOTES

- 1 Includes balancing accounts

Pacific Gas and Electric Company
2017 GRC Imputed Regulatory Values
Business Unit Operations and Maintenance Expense by Major Work Category
(Thousands of Nominal Dollars)

Line	Ex	Ch	MWC	MWC Description	PG&E 2017 Forecast (JCE) (A)	2017 Settlement (JCE) (B)	2018 Imputed Values (C)	2019 Imputed Values (D)
Gas Distribution (Exhibit 3)								
1	3	4	EX	G Dist Meter Protection	1,467	1,467	1,360	1,307
2	3	4	FI	G Dist Corrective Maint	3,050	3,050	2,844	2,746
3	3	4	JQ	G Dist Integrity Mgt (Non-Bal)	34,977	34,977	32,262	30,907
4	3	5	GM	Manage Energy Efficiency-NonBA	5,432	5,432	5,032	4,836
5	3	6A	DD	Provide Field Service	108,867	108,867	102,088	98,999
6	3	6A	DF	G&E T&D Locate and Mark	40,658	40,658	40,860	41,434
7	3	6A	FH	G Dist Preventive Maint	19,714	19,714	18,427	17,827
8	3	6A	FI	G Dist Corrective Maint	27,529	27,529	25,663	24,779
9	3	6A	HY	Change/Maint Used Gas Meters	4,292	4,292	4,026	3,904
10	3	6B	DG	G Dist Cathodic Protection	29,461	26,000	24,282	23,476
11	3	6B	FH	G Dist Preventive Maint	5,258	3,500	3,272	3,165
12	3	6B	FI	G Dist Corrective Maint	28,362	28,362	26,440	25,529
13	3	6C	DE	G Dist Leak Survey	40,226	40,226	37,514	36,235
14	3	6C	FI	G Dist Corrective Maint	90,348	87,846	81,892	79,071
15	3	7	FG	G Dist Operate System	16,992	16,992	15,817	15,256
16	3	7	GG	G Dist Planning & Ops Engineer	12,311	12,311	11,577	11,248
17	3	8	LK	G Dist WRO - Maintenance	6,294	6,294	5,644	5,326
18	3	9	GZ	R&D Non-Balancing Account	2,502	1,700	1,569	1,504
19	3	9	JV	Maintain IT Apps & Infra	35,486	27,000	25,042	24,088
20	3	10	AB	Misc Expense	4,538	4,000	3,706	3,563
21	3	10	DN	Develop & Provide Training	4,078	4,078	3,740	3,567
22	3	10	GF	G Dist Mapping	6,377	6,377	5,968	5,779
23	3			Sub-total Gas Distribution	528,220	510,673	479,023	464,546
Electric Distribution (Exhibit 4)								
24	4	3	AB	Misc Expense	9,238	9,238	9,469	9,699
25	4	4	BH	E Dist Routine Emergency	88,825	88,825	93,970	98,217
25	4	4	IF	E Dist Major Emergency	46,419	46,419	49,102	51,298
26	4	5	BA	E Dist Operate System	35,553	35,553	37,465	39,076
26	4	5	DD	Provide Field Service	31,756	31,756	33,504	34,964
27	4	6	BF	E T&D Patrol/Insp	59,980	59,980	63,418	66,238
27	4	6	BK	Maint Other Equip	3,090	3,090	3,261	3,405
28	4	6	KA	E Dist Maint OH General	75,640	73,640	77,946	81,446
28	4	6	KB	E Dist Maint UG	24,361	24,361	25,742	26,881
29	4	6	KC	E Dist Maint Network	7,073	7,073	7,476	7,808
29	4	7	HN	Vegetation Mgmt BalancingAcct	200,031	200,031	212,308	222,060
30	4	8	GA	E T&D Maint OH Poles	14,567	14,567	15,664	16,540
30	4	10	HX	E T&D Automation & Protection	2,119	2,119	2,237	2,336
31	4	12	GC	E Dist Subst O&M	42,135	42,135	44,524	46,493
31	4	13	BA	E Dist Operate System	391	83	87	91
32	4	13	JV	Maintain IT Apps & Infra	1,262	352	373	389
32	4	14	FZ	E Dist Planning & Ops Engineer	21,657	21,657	22,838	23,829
33	4	15	JV	Maintain IT Apps & Infra	7,405	6,000	6,351	6,635
33	4	16	GE	E Dist Mapping	8,922	6,400	6,763	7,062
34	4	17	EV	Manage Service Inquiries	14,641	14,641	15,445	16,117
34	4	17	EW	E TD WRO - Maintenance	17,886	17,886	19,217	20,314
35	4	19	AB	Misc Expense	1,991	1,991	2,104	2,196
35	4	19	DN	Develop & Provide Training	7,219	7,219	7,664	8,017
36	4			Sub-total Electric Distribution	722,160	715,016	756,928	791,112
Energy Supply (Exhibit 5)								
37	5	3	AB	Misc Expense	20,920	20,920	21,898	22,633
38	5	3	AK	Manage Environmental Oper	3,134	3,134	3,367	3,534
39	5	3	BP	Manage DCPD Business	4,486	4,486	4,813	5,048
40	5	3	BQ	DCPD Support Services	48,864	48,864	52,197	54,666

Pacific Gas and Electric Company
2017 GRC Imputed Regulatory Values
Business Unit Operations and Maintenance Expense by Major Work Category
(Thousands of Nominal Dollars)

Line	Ex	Ch	MWC	MWC Description	PG&E 2017 Forecast (JCE)	2017 Settlement (JCE)	2018 Imputed Values	2019 Imputed Values
					(A)	(B)	(C)	(D)
41	5	3	BR	Operate DCPD Plant	108,310	108,310	115,778	121,283
42	5	3	BS	Maintain DCPD Plant Assets	155,625	155,625	166,640	174,674
43	5	3	BT	Nuclear Generation Fees	18,142	18,142	19,517	20,494
44	5	3	BV	Maintain DCPD Plant Configurtn	51,963	51,963	55,615	58,285
45	5	3	CR	Mnge Waste Disp & Transp	105	105	113	119
46	5	3	EO	Provide Nuclear Support	214	214	230	241
47	5	3	IG	Manage Var Bal Acct Processes	13,584	9,414	10,116	10,618
48	5	4	AB	Misc Expense	3,004	3,004	3,228	3,392
49	5	4	AK	Manage Environmental Oper	1,505	1,505	1,620	1,703
50	5	4	AX	Maint Resv,Dams&Waterways	32,179	32,054	34,432	36,178
51	5	4	AY	Habitat and Species Protection	203	203	218	229
52	5	4	EP	Manage Property & Bldgs	2,071	2,071	2,226	2,339
53	5	4	ES	Implement Environment Projects	111	111	119	125
54	5	4	IG	Manage Var Bal Acct Processes	3,949	3,949	4,239	4,452
55	5	4	KG	Operate Hydro Generation	54,782	54,782	58,654	61,519
56	5	4	KH	Maint Hydro Generating Equip	36,045	35,970	38,506	40,384
57	5	4	KI	Maintain Hyd Sctr, Rds&Infst	14,803	14,503	15,588	16,383
58	5	4	KJ	License Compliance Hydro Gen	38,418	38,418	41,407	43,586
59	5	5	AK	Manage Environmental Oper	3,266	3,266	3,518	3,697
60	5	5	KK	Operate Fossil Generation	17,054	17,054	18,270	19,157
61	5	5	KL	Maint Fossil Generating Equip	34,891	34,891	37,625	39,562
62	5	5	KM	Maint Fossil Bldg,Grnd,Infrast	2,805	2,805	3,026	3,183
63	5	5	KQ	Operate Alternative Gen	802	802	865	910
64	5	5	KR	Maint AltGen Generating Equip	3,569	3,569	3,831	4,021
65	5	5	KS	Maint AltGen Bldg,Grnd,Infrast	670	670	723	761
66	5	6	AB	Misc Expense	2,784	2,784	2,977	3,119
67	5	6	BI	Maint Buildings	170	170	183	193
68	5	6	CT	Acq & Manage Elect Supply	53,702	53,702	57,296	59,976
69	5	6	CV	Acq & Manage Gas Supply	4,343	4,343	4,094	3,985
70	5	7	JV	Maintain IT Apps & Infra	7,403	7,403	7,970	8,378
71	5			Sub-total Energy Supply	743,878	739,208	790,901	828,827
Customer Care (Exhibit 6)								
72	6	2	EL	Develop New Revenue	13,502	13,502	14,628	15,530
73	6	2	EZ	Manage Var Cust Care Processes	8,438	6,596	6,840	7,064
74	6	2	FK	Retain & Grow Customers	2,123	900	929	956
75	6	2	GM	Manage Energy Efficiency-NonBA	2,990	2,990	3,085	3,177
76	6	2	IV	Provide Account Services	29,262	25,262	25,345	25,680
77	6	3	EZ	Manage Var Cust Care Processes	27,656	12,956	13,763	14,396
78	6	3	GM	Manage Energy Efficiency-NonBA	4,702	4,702	4,357	4,187
79	6	4	DK	Manage Customer Inquiries	102,317	98,500	98,792	100,075
80	6	5	DK	Manage Customer Inquiries	11,851	11,851	11,886	12,040
81	6	5	EZ	Manage Var Cust Care Processes	826	826	825	834
82	6	5	IU	Collect Revenue	21,077	21,077	21,102	21,348
83	6	6	FK	Retain & Grow Customers	807	(0)	(0)	(0)
84	6	7	AR	Read & Investigate Meters	24,208	23,208	23,281	23,587
85	6	7	DD	Provide Field Service	2,547	2,547	2,689	2,807
86	6	7	EY	Change/Maint Used Elec Meter	22,101	22,101	23,347	24,376
87	6	7	HY	Change/Maint Used Gas Meters	14,966	14,966	14,017	13,580
88	6	7	IG	Manage Var Bal Acct Processes	7,147	7,147	7,119	7,172
89	6	8	AR	Read & Investigate Meters	3,352	3,352	3,363	3,407
90	6	8	EZ	Manage Var Cust Care Processes	3,544	3,544	3,541	3,575
91	6	8	IG	Manage Var Bal Acct Processes	305	305	304	306
92	6	8	IS	Bill Customers	72,236	69,036	69,150	69,960
93	6	8	IT	Manage Credit	22,491	22,491	22,519	22,780
94	6	8	IU	Collect Revenue	16,870	16,870	16,892	17,107
95	6	9	EZ	Manage Var Cust Care Processes	8,509	8,509	8,500	8,583
96	6	9	IG	Manage Var Bal Acct Processes	36	36	36	36

Pacific Gas and Electric Company
2017 GRC Imputed Regulatory Values
Business Unit Operations and Maintenance Expense by Major Work Category
(Thousands of Nominal Dollars)

Line	Ex	Ch	MWC	MWC Description	PG&E 2017 Forecast (JCE) (A)	2017 Settlement (JCE) (B)	2018 Imputed Values (C)	2019 Imputed Values (D)
97	6	10	JV	Maintain IT Apps & Infra	5,590	5,590	5,584	5,638
98	6			Sub-total Customer Care	429,454	398,865	401,893	408,199
Shared Services & IT (Exhibit 7)								
99	7	2	FL	Safety Engineering & OSHA Cmpl	26,991	26,991	27,682	28,368
100	7	2	JV	Maintain IT Apps & Infra	486	486	498	510
101	7	3	BP	Manage DCPD Business	4,203	4,203	4,509	4,729
102	7	3	JV	Maintain IT Apps & Infra	488	488	500	512
103	7	5	JL	Procure Materials & Services	13,976	13,976	14,321	14,658
104	7	5	JV	Maintain IT Apps & Infra	4,200	3,267	3,348	3,428
105	7	6	BI	Maint Buildings	18,148	14,800	15,161	15,508
106	7	6	JH	Implement RealEstate Strategy	6,154	6,154	6,305	6,452
107	7	7	AK	Manage Environmental Oper	9,961	9,961	10,515	10,966
108	7	7	AY	Habitat and Species Protection	353	353	372	389
109	7	7	CR	Mnge Waste Disp & Transp	2,570	2,570	2,729	2,854
110	7	7	ES	Implement Environment Projects	1,344	1,344	1,426	1,491
111	7	7	FA	Spc A&G/Oth Csts-Bud Dept	1,715	1,715	1,758	1,802
112	7	7	JE	Manage Land Services	5,725	5,000	5,377	5,653
113	7	7	JK	Manage Environ Remed (Earning)	7,924	7,924	8,148	8,364
114	7	8A	AB	Misc Expense	13,525	11,000	11,315	11,621
115	7	8B	AB	Misc Expense	14,343	14,343	14,720	15,098
116	7	8B	JV	Maintain IT Apps & Infra	11,455	11,455	11,756	12,058
117	7	9	JV	Maintain IT Apps & Infra	286,017	286,017	292,712	299,493
118	7			Sub-total Shared Services and Information Technology	429,577	422,046	433,152	443,956
119				BUSINESS UNIT TOTAL	2,853,289	2,785,808	2,861,897	2,936,641

NOTES**Balancing Accounts**

- 1 Major Emergency Balancing Account O&M expenses are included in Exhibit 4, Chapter 4, MWC IF
- 2 Vegetation Management Balancing Account O&M expenses are included in Exhibit 4, Chapter 7, MWC HN
- 3 NRC Rulemaking Balancing Account O&M expenses are included in Exhibit 5, Chapter 3, MWC IG
- 4 Hydro Licensing Balancing Account O&M expenses are included in Exhibit 5, Chapter 4, MWC IG

Schedule 3

(PG&E-46)

Pacific Gas and Electric Company
2017 GRC Imputed Regulatory Values
Business Unit Capital Expenditures by Major Work Category
(Thousands of Dollars)

Line	Exhibit	Chapter	MWC	MWC Description	PG&E 2017 Forecast (JCE) (A)	2017 Settlement (B)	2018 Imputed Values (C)	2019 Imputed Values (D)
Gas Distribution (Exhibit 3)								
1	3	4	14	G Dist Pipeline Repl Program	409,220	409,220	382,280	374,255
2	3	4	27	Gas Meter Protection-Capital	361	361	337	330
3	3	4	50	G Dist Reliability General	98,400	98,400	91,922	89,992
4	3	5	31	NGV - Station Infrastructure	4,000	4,000	3,737	3,658
5	3	5	50	G Dist Reliability General	32,665	32,665	30,514	29,874
6	3	5	2K	G Dist Repl/Convert Cust HPR	41,123	41,123	38,416	37,609
7	3	6A	74	Install New Gas Meters	3,526	3,526	3,294	3,224
8	3	6B	50	G Dist Reliability General	21,555	21,555	20,136	19,713
9	3	6C	50	G Dist Reliability General	112,667	112,667	105,250	103,040
10	3	6C	52	G Dist Leak Repl/Emergency	680	680	633	620
11	3	7	47	G Dist Capacity	46,176	46,176	43,136	42,231
12	3	7	4A	G Dist Control Operations Assets	39,417	39,417	36,822	36,049
13	3	8	29	G Dist Customer Connects	79,200	69,200	64,645	63,288
14	3	8	51	G Dist WRO	64,653	64,653	60,397	59,129
15	3	9	2F	Build IT Apps & Infra	38,120	38,120	35,611	34,863
16	3	10	5	Tools & Equipment	2,725	2,725	2,525	2,459
17	3	10	78	Manage Buildings	16,549	16,549	15,335	14,936
18				Sub-total Gas Distribution	1,011,036	1,001,036	934,989	915,269
Electric Distribution (Exhibit 4)								
19	4	3	21	Emergency Preparedness and Response	7,950	7,950	7,367	7,175
20	4	4	17	E Dist Routine Emergency	143,053	143,053	131,707	128,486
21	4	4	95	E Dist Major Emergency	53,017	53,017	48,813	47,619
22	4	5	63	E T&D Control System/ Facility	1,060	1,060	976	952
23	4	5	2F	Build IT Apps & Infra	-	-	-	-
24	4	6	2A	E Dist Installation/Repl OH General	131,985	131,985	121,517	118,545
25	4	6	2B	E Dist Install/Repl Underground	45,336	45,336	41,740	40,720
26	4	6	2C	E Dist Install/Repl Network	19,186	19,186	17,664	17,232
27	4	8	7	E Dist Install/Repl OH Poles	103,597	103,597	95,380	93,048
28	4	9	8	E Dist Reliability Base	49,714	50,114	46,139	45,011
29	4	9	49	E Dist Reliability Circuit/Zone	81,514	83,014	76,430	74,561
30	4	10	9	E Dist Automation & Protection	43,460	43,460	40,013	39,035
31	4	11	56	E Dist Repl Underground Asset-Generation	93,174	107,174	98,674	96,261
32	4	12	48	E Dist Subst Repl Other Equipment	87,000	77,000	70,892	69,159
33	4	12	54	E Dist Subst Repl Transformer	40,097	40,097	36,916	36,014
34	4	12	58	E Dist Repl Substation Safety	2,271	2,271	2,090	2,039
35	4	12	59	E Dist Substation Emergency Repl	42,400	42,400	39,037	38,083
36	4	13	6	E Dist Line Capacity	108,191	94,800	87,281	85,147
37	4	13	46	E Dist Substation Capacity	85,161	65,700	60,489	59,010
38	4	13	2F	Build IT Apps & Infra	10,919	3,300	3,038	2,964
39	4	15	2F	Build IT Apps & Infra	45,857	45,857	42,220	41,187
40	4	15	3M	Smart Grid Pilot Program	-	-	-	-
41	4	17	10	E Dist Work at the Request of Others General	94,065	94,065	86,605	84,487
42	4	17	16	E Dist Customer Connects	434,351	391,000	359,989	351,186
43	4	18	5	Tools & Equipment	-	-	-	-
44	4	18	30	E Dist Work at the Request of Others Rule 20A	83,740	60,000	55,241	53,890
45	4	19	5	Tools & Equipment	(16,874)	(16,874)	(15,590)	(15,196)
46	4	19	23	Implement Real Estate Strategy	5,667	5,667	5,251	5,114
47				Sub-total Elec. Distribution	1,795,890	1,694,228	1,559,881	1,521,731

Pacific Gas and Electric Company
2017 GRC Imputed Regulatory Values
Business Unit Capital Expenditures by Major Work Category
(Thousands of Dollars)

Line	Exhibit	Chapter	MWC	MWC Description	PG&E 2017 Forecast (JCE)	2017 Settlement	2018 Imputed Values	2019 Imputed Values
					(A)	(B)	(C)	(D)
Energy Supply (Exhibit 5)								
Hydro Generation								
48	5	3	3	Office Furniture & Equipment	232	232	215	209
49	5	3	4	Fleet / Auto Equip	817	817	757	737
50	5	3	5	Tools & Equipment	1,158	1,158	1,073	1,045
51	5	3	20	DCPP Capital	144,189	144,189	134,715	132,118
52	5	3	3I	Nuclear Safety and Security	13,304	13,304	12,430	12,190
53				Sub-total Nuclear Generation	159,700	159,700	149,190	146,300
Nuclear Generation								
54	5	4	5	Tools & Equipment	985	985	914	891
55	5	4	11	Relicensing Hydro Gen	734	734	686	674
56	5	4	12	Implement Environment Projects	3,991	3,991	3,734	3,664
57	5	4	2L	Instl/Rpl for Hydro Safety&Reg	37,727	37,727	35,290	34,629
58	5	4	2M	Instal/Repl Hydro Gneratng Eqp	103,421	103,421	96,740	94,929
59	5	4	2N	Instal/Repl Resv,Dams&Waterway	66,817	66,817	62,501	61,331
60	5	4	2P	Instl/Repl Hydr BldgGrndInfrst	13,004	13,004	12,164	11,937
61	5	4	3H	Hydroelectric Lic & Lic Conditions	26,986	26,986	25,716	25,372
62				Sub-total Hydro Generation	253,667	253,667	237,744	233,426
Fossil Generation								
63	5	5	3	Office Furniture & Equipment	50	50	46	45
64	5	5	5	Tools & Equipment	330	330	306	298
65	5	5	2R	Instl/Rpl for Fossil Safety&Reg	2,600	2,600	2,436	2,391
66	5	5	2S	Instal/Repl Fossil Gneratng Eqp	11,051	11,051	10,356	10,161
67	5	5	2T	Instl/Repl Fosl BldgGrndInfrst	150	150	141	138
68	5	5	3A	Instl/Rpl for AltGen Safty&Reg	30	30	28	28
69	5	5	3B	Instal/Repl AltGen GneratngEqp	281	281	264	259
70	5	5	4C	Instl/Rpl AltGn BldgGrndInfrst	-	-	-	-
71				Sub-total Fossil Generation	14,493	14,493	13,577	13,319
Energy Procurement								
72	5	7	2F	Build IT Apps & Infra	52,300	52,300	49,137	48,192
73	5	7	3M	Install/Repl Var Bal Acct	-	-	-	-
74				Sub-total Energy Procurement	52,300	52,300	49,137	48,192
75				Sub-total Energy Supply	480,160	480,160	449,648	441,236
Customer Care (Exhibit 6)								
76	6	2	3M	Install/Repl Var Bal Acct	-	-	-	-
77	6	4	21	Misc Capital	2,000	2,000	1,853	1,805
78	6	4	23	Implement Real Estate Strategy	-	-	-	-
79	6	5	21	Misc Capital	625	625	579	564
80	6	7	1	IT - Desktop Computers	500	500	463	451
81	6	7	5	Tools & Equipment	2,565	2,565	2,377	2,315
82	6	7	25	Install New Electric Meters	53,577	53,577	49,328	48,121
83	6	7	74	Install New Gas Meters	91,428	91,428	85,409	83,616
84	6	7	97	Manage Smart Meter	-	-	-	-
85	6	7	3J	Smart Meter Opt Out	547	547	506	494
86	6	8	21	Miscellaneous Capital	5,000	5,000	4,633	4,513
87	6	10	2F	Build IT Apps & Infra	41,847	40,522	37,550	36,573
88				Sub-total Customer Care	198,089	196,764	182,699	178,452

Schedule 3

(PG&E-46)

Pacific Gas and Electric Company
2017 GRC Imputed Regulatory Values
Business Unit Capital Expenditures by Major Work Category
(Thousands of Dollars)

Line	Exhibit	Chapter	MWC	MWC Description	PG&E 2017 Forecast (JCE) (A)	2017 Settlement (B)	2018 Imputed Values (C)	2019 Imputed Values (D)
Shared Services & IT¹ (Exhibit 7)								
Shared Services								
89	7	2	2F	Build IT Apps & Infra	1,726	1,726	1,599	1,558
90	7	3	4	Fleet / Auto Equip	107,837	107,837	99,928	97,327
91	7	3	5	Tools & Equipment	1,009	1,009	935	910
92	7	3	28	EV - Station Infrastructure	3,203	3,203	2,968	2,891
93	7	3	2F	Build IT Apps & Infra	100	100	93	90
94	7	3	21	Miscellaneous Capital	-	-	-	-
95	7	4	5	Tools & Equipment	622	622	576	561
96	7	4	21	Misc Capital	492	492	456	444
97	7	4	2F	Build IT Apps & Infra	-	-	-	-
98	7	5	2F	Build IT Apps & Infra	8,200	8,200	7,599	7,401
99	7	6	22	Maintain Buildings	50,215	50,215	46,532	45,321
100	7	6	23	Implement Real Estate Strategy	115,361	110,000	101,933	99,280
101	7	6	2F	Build IT Apps & Infra	-	-	-	-
102	7	7	5	Tools & Equipment	300	300	278	271
103	7	7	12	Implement Environment Projects	6,207	6,207	5,752	5,602
104	7	7	2F	Build IT Apps & Infra	-	-	-	-
105	7	8A	2F	Build IT Apps & Infra	500	500	467	457
106	7	8B	2F	Build IT Apps & Infra	2,948	2,948	2,732	2,661
107				Sub-total Shared Services	298,720	293,358	271,848	264,773
IT								
108	7	9	2F	Build IT Apps & Infra	200,639	200,639	185,925	181,085
109	7	9	3J	Smart Meter Opt Out	-	-	-	-
110				Sub-total IT	200,639	200,639	185,925	181,085
				Sub-total Shared Services & IT	499,359	493,997	457,773	445,858
Human Resources¹ (Exhibit 8)								
111	8	2	2F	Build IT Apps & Infra	930	930	930	930
112	8	3	2F	Build IT Apps & Infra	-	-	-	-
113	8	4	22	Maintain Buildings	150	150	139	135
114	8	4	2F	Build IT Apps & Infra	-	-	-	-
115	8	6	5	Tools & Equipment	420	420	389	379
116	8	6	22	Maintain Buildings	780	780	723	704
117	8	6	2F	Build IT Apps & Infra	1,325	1,325	1,228	1,196
118				Sub-total Human Resources	3,605	3,605	3,409	3,344
Administrative and General¹ (Exhibit 9)								
119	9	2	2F	Build IT Apps & Infra	3,906	3,906	3,620	3,525
120	9	3	2F	Build IT Apps & Infra	11,850	11,850	10,981	10,695
121	9	4	2F	Build IT Apps & Infra	3,000	3,000	2,780	2,708
122	9	5	2F	Build IT Apps & Infra	-	-	-	-
123	9	7	2F	Build IT Apps & Infra	14,500	14,500	13,583	13,282
124				Sub-total Administrative and General	33,256	33,256	30,964	30,210
125				Total GRC (incl. Tot. Co. Comm.)	4,021,394	3,903,046	3,619,363	3,536,101

NOTES

- 1 The Imputed regulatory values reflect 100 percent of the common costs; however, only 84.67 percent of the support costs are reflected in the GRC revenue requirement.

Schedule 4

Pacific Gas and Electric Company
2017 GRC Imputed Regulatory Values
Summary of Corporate Services Expense
(Thousands of Dollars)

Line No.	Exhibit	Organization	PG&E 2017 Final Forecast (FERC\$)	2017 Settlement (FERC\$)	Benefits and Payroll Taxes	2017 Imputed Values (SAP\$)	2017 IT Expense Settlement (SAP\$)	2017 Imputed Values w/ IT (SAP\$)
1	8	Human Resources	61,418	60,500	17,066	77,566	1,134	78,700
2	9	Finance	45,795	45,400	12,201	57,601	1,546	59,147
3	9	Risk & Audit	22,411	22,411	6,877	29,289	1,830	31,119
4	9	Regulatory Affairs	25,752	25,000	7,933	32,933	200	33,133
5	9	Law	50,770	50,770	8,497	59,268	-	59,268
6	9	Executive Offices and Corporate Secretary	9,176	8,720	1,086	9,807	-	9,807
7	9	Corporate Affairs	32,992	32,878	6,162	39,040	3,167	42,207
8		Total	248,314	245,679	59,822	305,503	7,878	313,381

Line No.	Exhibit	Organization	2018 Imputed Values (SAP\$)	2018 IT Expense Imputed Values (SAP\$)	2018 Imputed Regulatory Values w/ IT (SAP\$)	2019 Imputed Values (SAP\$)	2019 IT Expense Imputed Values (SAP\$)	2019 Imputed Regulatory Values w/ IT (SAP\$)
1	8	Human Resources	79,538	1,162	80,700	81,528	1,190	82,718
2	9	Finance	59,063	1,585	60,648	60,535	1,622	62,157
3	9	Risk & Audit	30,036	1,876	31,911	30,792	1,920	32,712
4	9	Regulatory Affairs	33,774	205	33,979	34,626	210	34,836
5	9	Law	60,750	-	60,750	62,223	-	62,223
6	9	Executive Offices and Corporate Secretary	10,051	-	10,051	10,291	-	10,291
7	9	Corporate Affairs	40,020	3,164	43,183	40,994	3,194	44,188
8		Total	313,231	7,991	321,222	320,988	8,137	329,125

Schedule 5

(PG&E-46)

Pacific Gas and Electric Company
2017 GRC Imputed Regulatory Values
Summary of Companywide Expense
(Thousands of Dollars)

Line No.	Exhibit	Companywide Expense	PG&E 2017 Final Forecast (Gross) (A)	2017 Settlement (Gross) (B)	2017 Settlement (Net) ¹ (C)	2018 Imputed Values ¹ (Net) (D)	2019 Imputed Values ¹ (Net) (E)
1	7	DOT Drug Testing	519	519	296	303	310
2		Exhibit 7 Total	519	519	296	303	310
3	8	Employee Relocation Program	12,275	12,275	7,003	7,173	7,336
4	8	Tuition Refund Program	3,037	3,037	1,733	1,775	1,815
5	8	Utility STIP for Non-Officers	147,177	75,000	48,869	50,042	51,243
6	8	Dental Plans	33,976	33,976	19,383	19,383	19,383
7	8	Employee Health Care Contributions	(35,535)	(35,535)	(20,273)	(21,063)	(21,864)
8	8	Group Life Insurance Benefits	826	826	471	483	494
9	8	Medical Programs	428,666	424,000	241,890	251,324	260,874
10	8	Service Awards	1,100	550	314	321	329
11	8	Vision Benefits	3,732	3,732	2,129	2,129	2,129
12	8	Retirement Savings Plan	87,515	87,515	49,927	51,125	52,352
13	8	LTD (Pay-As-You-Go) and STD & Leave Admin	1,146	1,146	654	654	654
14	8	Emergency Dependent Care	400	400	228	234	239
15	8	Corporation Non-Qualified Pension (Pay-As-You-Go)	825	413	328	336	343
16	8	Corporation STIP for Non-Officers	232	90	71	73	75
17	8	Non-Qualified Defined Contribution Plans	825	413	235	235	235
18	8	Postretirement Life Insurance (Pay-As-You-Go)	3,267	3,267	1,864	1,864	1,864
19	8	Postretirement Life Insurance - Trust Contributions	3,637	3,637	2,075	2,075	2,075
20	8	Postretirement Medical -Trust Contributions	20,107	20,107	11,471	11,471	11,471
21	8	Postretirement Medical (Pay-As-You-Go)	973	973	555	555	555
22	8	Non- Qualified Pension (Pay-As-You-Go)	3,408	1,704	972	972	972
23	8	Corporation Non-Qualified Defined Contribution Plans	150	79	62	64	65
24	8	Long Term Disability	31,719	31,719	18,096	18,096	18,096
25	8	Workers Compensation	42,967	41,900	23,904	23,904	23,904
26	8	Workforce Mgt (Severance & Transitional Pay)	16,503	14,500	14,500	14,848	15,204
27	8	Workforce Transition (Outplacement Asst)	423	350	350	358	367
28		Exhibit 8 Total	809,348	726,073	426,811	438,429	450,210
29	9	Bank Fees	4,831	4,760	4,760	4,876	4,986
30	9	Remaining Vacation	7,283	7,283	4,193	4,294	4,397
31	9	Directors and Officers Liability Insurance	2,395	1,198	1,198	1,198	1,198
32	9	General Liability Insurance and Miscellaneous	55,374	52,000	52,000	52,000	52,000
33	9	Non-Nuclear Property	22,049	21,500	21,500	21,500	21,500
34	9	Nuclear Property	5,964	3,744	3,744	3,744	3,744
35	9	Holding Company - Liability Insurance	600	600	594	608	622
36	9	Holding Company - Property Insurance	6	6	6	6	6
37	9	Settlements and Judgments	27,449	27,449	27,449	27,449	27,449
38	9	Third Party Claims	16,012	16,012	13,231	13,231	13,231
39	9	Misc Gen Exp-Dir Fee	1,958	1,687	1,670	1,711	1,750
40		Exhibit 9 Total	143,922	136,240	130,345	130,616	130,883
41		Total	953,789	862,832	557,452	569,349	581,403

NOTES

- 1 Net of capitalization and other allocations.